

ANDRONOV, A.A. [deceased]; LEONTOVICH, Ye.A. (Gor'kiy)

Dynamic systems of the first degree of nonroughness on
a plane. Conditions necessary for a state of the first
degree of nonroughness of a dynamic system (G - conditions).
Mat. sbor. 68 no.3:328-372 N '65.

(MIRA 18:11)

L 12791-66 EWT(1)/ETC(F)/EPF(n)-2/EWG(m) IJP(c) AT

ACC NR: AP5026623

SOURCE CODE: UR/0056/65/049/004/1293/1303

AUTHOR: Andronov, A. A.

57
55
B

ORG: Radiophysics Institute of the Gor'kiy State University
(Radiofizicheskiy institut Gor'kovskogo gosudarstvennogo universiteta)

TITLE: Cyclotron absorption and heating in a plasma

SOURCE: Zhurnal eksperimental'noy i teoreticheskoy fiziki, v. 49,
no. 4, 1965, 1293-1303

TOPIC TAGS: plasma heating, cyclotron resonance, rarefied plasma,
plasma electromagnetic wave, plasma instability

ABSTRACT: The purpose of the investigation to determine the conditions under which the establishment of steady state (plateau) in a low-density plasma occurs after a relatively long time or does not occur at all, so that cyclotron heating of the plasma becomes possible. It is shown on the basis of an analysis of the motion of the plasma particles in a specified electromagnetic field that the time in which the cyclotron absorption is decreased can be made large if the electromagnetic wave propagates along the magnetic field with the speed of light. Absorption of the electromagnetic waves under these conditions is analyzed in the

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quasilinear approximation. A criterion is found for the kinetic instability of the quasistationary plasma state in the field of a slow monochromatic plane wave with respect to a wave propagating along a fixed magnetic field. This criterion is found to be the same as the instability criterion obtained for the plateau in the quasilinear theory by one of the authors earlier (Andronov, with V. Yu. Trakhtengerts, ZhETF v. 45, 1009, 1963). It is shown that an instability of this type can increase the efficiency of cyclotron heating by providing a mechanism for continuous transfer of energy to plasma. The latter situation is illustrating by using as an example the nonrelativistic motion of a charged particle in a field produced by two monochromatic plane waves. Author thanks V. K. Yulpatov for valuable comments and N. G. Denisov for a discussion of the manuscript. Orig. art. has: 3 figures and 32 formulas.

SUB CODE: 20/ SUBM DATE: 17May65/ NR REF SOV: 012/ OTH REF: 003

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Card 2/2

L 21757-66 EWT(1)/ETC(f)/EPF(n)-2/EWG(m) IJP(c) AT
ACC NR: AP6004900 SOURCE CODE: UR/0057/66/036/001/0196/0198

AUTHOR: Andronov, A. A.

37
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B

ORG: None

TITLE: Nonlinear theory of the dipole resonance of a plasma burst and the coherent acceleration of plasma

SOURCE: Zhurnal tekhnicheskoy fiziki, v. 36, no. 1, 1966, 196-198

TOPIC TAGS: plasma acceleration, plasma resonance, nonlinear theory, axial magnetic field, scattering cross section

ABSTRACT: This letter to the editor is concerned with the efficiency of the coherent method of plasma acceleration of V.I.Veksler (Atomnaya energiya, 2, 427, 1957). A uniform cylinder of radius R and length L small compared with the wavelength is adopted as a model of the plasma burst and all resonances are neglected except the quasi-static dipole resonance at frequency $F = f/2^{1/2}$, where f is the plasma frequency. It is assumed that the electromagnetic wave is circularly polarized with the electric vector perpendicular to the axis of the plasma cylinder, and that the plasma is confined in an axial magnetic field. Results of calculations of the scattering cross section and the polarization phase as functions of the deviation of the frequency from the resonance value and the ratio of the intensity of the wave to the strength of the axial magnetic field are presented graphically, and the hysteresis phenomena that they

UDC: 533.9

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ACC NR: AP6004900

reveal are discussed. If F is from 3×10^9 to 10^{10} rad/sec, the plasma temperature is 10^4 °K, the cross section of the accelerator waveguide is $10-50 \text{ cm}^2$, and the Q factor is 100, hysteresis sets in at powers of the order of several watts. If the radius of the plasma cylinder is 1 cm, the time required for a plasma ion, owing to its thermal velocity, to cross the plasma cylinder is approximately 6×10^{-7} sec. This time is of the same order as that required to accelerate the plasma to 10^8 cm/sec within a length of 50 cm; it may therefore be difficult to achieve resonance conditions. The author thanks M.A.Miller for discussions and for his interest in the work, and V.B.Gil'denburg for remarks. Orig. art. has: 2 formulas and 3 figures.

SUB CODE: 20/ SUBM DATE: 07Jun 65/ ORIG REF: 014/ OTH REF: 005

Card 2/2 JV

L 25865-66 EWT(d)/EWP(l) IJP(c)
 ACC NR: AP6008804

SOURCE CODE: UR/0039/65/068/003/0328/0372

AUTHORS: Andronov, A. A. (deceased) (Gor'kiy); Leontovich, Ye. A. (Gor'kiy)

ORG: none

TITLE: Dynamic systems of the first order of refinement in the plane

SOURCE: Matematicheskiy sbornik, v. 68, no. 3, 1965, 328-372

TOPIC TAGS: dynamic system, system analysis, dynamic behavior, trajectory analysis

ABSTRACT: The class of simple refined systems called "systems of the first order of refinement" is considered. Systems of this type are found among the systems in the plane, that is, systems of the form

$$\frac{dx}{dt} = P(x, y), \quad \frac{dy}{dt} = Q(x, y),$$

where x and y are the Cartesian coordinates in the plane. The concept of the "coarseness" of dynamic systems is defined in terms of the variables and vector spaces involved. Conditions necessary for a system of the first order of refinement are established. Three conditions are stated; the violation of any one of these three conditions is necessary for the given system to be of the first order of refinement. The discussions are based on the theorem of "minor variation of the solution and derivatives from the solution according to initial values from the variation of the righthand side" (see A. A. Andronov and Ye. A. Leontovich (Rozhdeniye predel'nykh

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UDC: 517.925

L 25865-66

ACC NR: AP6008804

tsiklov iz negrubogo fokusa ili tsentra i ot negrubogo predel'nogo tsikla, Matem. sb., 40 (82) (1956), 179 - 224)). Fifteen theorems and several lemmas are stated and proved. The conditions established in these theorems are the first order of refinement conditions and are termed the Γ conditions. The proof that the Γ conditions are also sufficient conditions for a system of the first order of refinement is left for subsequent publication. Orig. art. has: 17 equations.

SUB CODE: 12/ SUBM DATE: 08Jun64/ ORIG REF: 011/ OTH REF: 006

Card 2/2 Ha)

L 45168-66 EWT(1)/FCC GW
 ACC NR: AP6028335

SOURCE CODE: UR/0293/66/004/004/0558/0567

AUTHOR: Andronov, A. A.

ORG: none

TITLE: Antenna (probe) impedance and noise in cosmic plasma

SOURCE: Kosmicheskiye issledovaniya, v. 4, no. 4, 1966, 558-567

TOPIC TAGS: interplanetary plasma, antenna gain, very high frequency, cyclotron frequency, plasma electromagnetic wave, rarefied plasma, ANTENNA NOISE, ISOTROPIC PLASMA, SPACE PROBE

ABSTRACT: The impedance and noise of a model antenna in an isotropic plasma are calculated. A simple mathematical model is selected to identify the governing parameters of an actual antenna on a space probe (or earth satellite) moving through a rarefied plasma. It is assumed that the plasma particles do not interact with the probe surface and the effect of magnetic fields on the probe impedance is negligible. The Poisson equation is Fourier-transformed, and the antenna impedance is calculated for $\omega \ll \omega_0$ and $\omega = \omega_0$. The intensity of shot noise for the model antenna is expressed by

$$g_a^2 = \frac{2}{\pi} X_0 \frac{\omega_0^2}{\omega^2} Ta \left\{ \frac{1}{a^2} - K_2(2a) \right\} = \frac{2}{\pi} X_0 \frac{\omega_0^2}{\omega^2} F_1(a) T$$

where $T = mV_T^2/2$, $a = \omega L/2V_T$, and $K_2(2a)$ is a MacDonald function. An effective

UDC: 537.311.5

Card 1/2

Card 2/2 (plo)

APPROVED FOR RELEASE

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ANDRONOV, A. F.

Andronov, A. F. "Improving the quality of the Moskvich automobile," Avtomob. prom-st',
1949, No. 4, p. 13-15.

SO: U-3736, 21 May 53, (Letopis 'Zhurnal 'nykh Statey, no. 18, 1949).

ANDRONOV, A. F.

Avtomobil' "Moskvich"; konstruktsiia i obsluzhivanie. /"Moskvich" Automobile, design and maintenance/. Moskva, Gos. nauchno-tekhn. izd-vo mashinostroit. lit-ry, 1950. 229 p.

ILC: Slavic unclass.

SO: Soviet Transportation and Communication. A Bibliography, Library of Congress Reference Department, Washington, 1952, Unclassified.

ANDRONOV, A.F.; BORISOV, N.I.; KUPERMAN, M.N.; KHAL'FAN, Yu.A.; KRAMARENKO, G.V.,
kandidat tekhnicheskikh nauk, retsenzent; MAYKOV, A.S., kandidat tekhnicheskikh nauk, redaktor; BROSH, V.V., inzhener, zaveduyushchiy redaktsiey.

[Repair of the "Moskvich" automobile; dismantling-assembling and adjustment work] Remont avtomobilja "Moskvich"; razborochno-sborochnye i regulirovochnye raboty. Moskva, Gos. nauchno-tekhn. izd-vo mashinostroit. lit-ry, 1952. 286 p.

(MLRA 6:5)
(Automobiles--Repairing)

Trans. Tab. Contents -

D 148-355, 12 Nov 54

ANDRONOV, A. F.

Automobiles - Design and Construction

Improving the automobile "Moskvich." Avt. trakt. prom. No. 2, 1953.

9. Monthly List of Russian Accessions, Library of Congress, June 1953, Uncl.

KHAL'FAN, Yu.A., inzhener; ANDRONOV, A.F., inzhener, redaktor; TIKHONOV, A.Ya., tekhnicheskij redaktor.

[Spare parts catalog for the "Moskvich"] Katalog zapasnykh chastei avtomobilja "Moskvich." Izd. 2-e, perer. i dop. Moskva, Gos. nauchno-tekhn. izd-vo mashinostroit. lit-ry, 1954. 164 p. (MLRA 8:1)

1. Russia (1923- U.S.S.R.) Ministerstvo avtomobil'noy i traktornoy promyshlennosti.
(Automobiles--Apparatus and supplies)

ANDRONOV, A.F.

Letter to the editor. Avt,trakt.prom. no.9:31 S '54. (MLRA 7:10)

1. Moskovskiy zavod malolitrazhnykh avtomobiley.
(Automobiles)

... 2. 2. 2. 2. 2.

Automobile "Moskvich"; construction and maintenance. Izd. 21, perer. Moskva,
Gos. nauchno-tehn. izd-vo mashinostroit. lit-ry, 1959. 311 p.

1. Automobiles - Design and construction.

ANDRONOV, A.F.

The new Moskvich-402 passenger automobile. Avt. i trakt. prom. no.3:
6-8 Mr '56.
(MLRA 9:7)

1.Moskovskiy zavod malolitrazhnykh avtomobiley.
(Automobiles)

KHAL'FAN, Yu.A., inzhener; ANDRONOV, A.F., inzhener, otvetstvennyy redaktor;
MATVEYEVA, Ye.N., tekhnicheskiy redaktor

[Model 402 of the "Moskvich" automobile; maintenance instructions]
Avtomobil' "Moskvich" modeli 402; instruktsiia po ukhodu. Otv.
red. A.F. Andronov. Izd. 2-oe, dop. Moskva, Gos. nauchno-tekhn.
izd-vo mashinostroit. lit-ry, 1957. 171 p. (MLRA 10:5)

1. Glavnyy konstruktor Moskovskiy zavod malolitrazhnykh
avtomobiley (for Andronov)
(Automobiles)

~~ANDRONOV, A.P.; CHURAZOV, S.D.~~

~~The Moskvich-43 automobile with the Universal body. Avt.i trakt.
prom. no.11:16-17 N '57.~~
~~(MIRA 10:12)~~

1. ~~Moskovskiy zavod malolitrazhnykh avtomobiley.~~
~~(Automobiles--Bodies)~~

KHAL'FAN, Yu.A., inzh.; ANDRONOV, A.P., inzh., otvetstvennyy red.; TIKHANOV,
A.Ya., tekhn. red.

["Moskvich" automobile, model 402; maintenance manual] Avtomobil'
"Moskvich" modeli 402; instruktsiia po ukhodu. Otvet. red. A.P.
Andronov. Izd.3., dop. Moskva, Gos. nauchno-tekhn. izd-vo mashino-
stroit. lit-ry, 1958. 189 p. (MIRA 11:9)

1. Moskovskiy zavod malolitrazhnykh avtomobiley. 2. Glavnyy konstruk-
tor Moskovskogo zavoda malolitrazhnykh avtomobiley (for Andronov).
(Automobiles--Maintenance)

KHAL'FAN, Yu. A., inzh.; ANDRONOV, A.F., inzh., red.; STUPIN, A.K., red. izd-va.; UVAROVA, A.F., tekhn. red.

[Catalog of automobile parts] Xatalog detalei avtomobilja Móskvich
402. Moskva, Gos. nauchno-tekhn. izd-vo mashinostroit. lit-ry,
1958. 285 p.
(MIRA 11:12)

1. Russija (1923- U.S.S.R.) Glavnoye upravleniye po sbytu avtomobilej i traktornoy produktsii i sel'skokhozyaystvennykh mashin.
 2. Otdel glavnogo konstruktora Moskovskogo zavoda malolitrazhnykh avtomobiley (for Khal'fan). 3. Glavnyy konstruktor Moskovskogo zavoda malolitrazhnykh avtomobiley (for Andronov).
- (Automobiles--Apparatus and supplies)

KHAL'FAN, Yu.A., inzh.; ANDRONOV, A.F., inzh., red.; BOL'SHAKOV, B.N.,
red.izd-va; UVAROVA, A.Y., tekhn.red.

[Catalog of spare parts for the 407, 410N, 411, 423N, and 430
"Moskvich" automobiles] Katalog zaspasnykh chastei avtomobilei
"Moskvich" modelei 407, 410N, 411, 423N i 430. Moskva, Gos.
nauchno-tekhn.izd-vo mashinostroit.lit-ry, 1960. 481 p.

(MIRA 13:7)

1. Moskovskiy zavod malolitrazhnykh avtomobilei. 2. Glavnyy
konstruktor Moskovskogo zavoda malolitrazhnykh avtomobiley (for
Andronov).

(Automobiles--Apparatus and supplies)

ANDRONOV, A.F.

Modernization of the "Moskvich-407" car. Za rul. 19 no.4:20-21
Ap '61. (MIRA 14:7)

1. Glavnnyy konstruktor Moskovskogo zavoda malolitrazhnykh avtomobiley.
(Automobiles)

BELKIN, L.I.; GORELOV, L.R.; GORYACHIY, Ya.V.; ZILOV, A.L.;
NEMTSOV, Yu.M.; TAPINSKIY, V.N.; YUTT, Ye.M.;
ANDRONOV, A.F., inzh., red,

[Automobile "Moskvich" 403; design and maintenance] Avto-
mobil' "Moskvich" modeli 403; konstruktsiya i tekhniche-
skoe obsluzhivanie. Moskva, Mashinostroenie, 1965. 402 p.
(MIRA 18:8)

1. Glavnyy konstruktor Moskovskogo zavoda malolitrazhnykh
avtomobiley (for Andronov).

BELKIN, Leonid Isaakovich; GORYACHIY, Yakov Vladimirovich; NOVOSELOV, Igor' Vasil'yevich; YUTT, Yevgeniy Markovich; ANDRONOV, A.F., inzh., red.; VASIL'YEVA, I.A., red. izd-va; UVAROVA, A.P., tekhn. red.

[The "Moskvich-407" automobile; design and maintenance] Avtomobil' "Moskvich" modeli 407; konstruktsiya i tekhnicheskoe obsluzhivanie. Pod red. A.F.Andronova. Moskva, Gos.nauchno-tekhn. izd-vo mashino-stroit.lit-ry, 1961. 398 p. (MIRA 14:6)

1. Glavnnyy konstruktor Moskovskogo zavoda malolitrazhnykh avtomobiley
(for Andronov)
(Automobiles)

ANDRONOV, A.I., inzh.

Network planning in the installation of turbogenerators.
Energ. stroi. no. 4:28-33 '65. (MIRA 18:12)

1. A. L. ANDRONOV.
2. USSR (600)
4. Agricultural Machinery
7. General introduction of machinery for heavy jobs involved in collective farm stockbreeding. Sots. zhiv. 15 no. 1. 1953.
9. Monthly List of Russian Accessions, Library of Congress, April 1953, Uncl.

ANDRCNOV, A.N.

Device for turning rolls on milling machines.
Shor.rats.predl.vnedr.v proizv. no.l:53-54 '61. (MIRA 14:7)

1. Nizhne-Tagil'skiy metallurgicheskiy kombinat.
(Milling machines--Attachments)

L 41764-65 EPR/EWP(z)/EWT(a)/EWP(b)/EWA(z) EWP(z) ES-4 3 1/2" MPN/T
Kostanich PMT Akmensk

Chernikov, V. V. 'Candidate of technical sciences; Sokolova, A. I.
and others. A. N. Vinogradov, et al., et al.

Increase in purity of ingots made of alloy VM65-1

SOURCE: Liteynaya proizvodstvo, no. 5, 1964, 10-17

TOPIC TAGS: casting, impurity, magnesium, aluminum, oxide inclusion, flux/ VM65-1
alloy P1

ABSTRACT: To increase the purity of ingots made from alloy VM65-1, a secondary refining was attempted. This process was performed in the mixer after the original refining in the furnace. Only one half of the original amount of flux was used. The metal obtained in this manner contained much smaller quantities of oxides, magnesium, aluminum, and suffered no oxidation. In addition, the casting of the molten metal from the mixer metal from breaking off the bottom, the design of the pouring trough was altered. Enclosing the metal and introducing a centrifugal pump between the oxidation between the mixer and the crystallizer. X-ray study of metal specimens removed from the ingots showed the presence of Mn and Cr. Chemical

Cord 1/2

L 41764-65

ACCESSION NR: AP4038809

analysis proved their content to be (respectively): 5.47% and 0.63% at the periphery, 5.17% and 0.63% at the midpoint of the radius, and 5.07% and 2.1% at the center (these tests were conducted by Engineer Isayev). The excessive presence of zirconium and other elements was explained by the introduction of molten salts containing 30% of Li_2ZrF_6 , 26% of LiCl , and 4% of LaF_3 . To remedy this situation, it was decided to diminish the amount of salts introduced into the bath, from 40% at first to 5.5% and then to 5%. All these measures substantially increased the purity of ingots and reduced the number of culls. Orig. art. has: 2 figures and 1 table.

ASSOCIATION: none

SUBMITTED: 00

ENCL: 00

SUB CODE: MM

NO REF S07: 000

OTHER: 000

Cord 2/2

ANDRONOV, A.S.

[Corn for grain and silage; experience of the experimental farm of
the Kirghiz Stockbreeding Research Institute] Kukuruz na zerno i
silos; opyt eksperimental'noi fermy Kirgizskogo nauchno-issledova-
tel'skogo instituta zhivotnovodstva. Frunze, Kirgizskoe gos. izd-vo,
1955. 22 p.

(MLRA 9:11)

(Corn (Maize))

HADACHEV, H.S.

USSR/Cultivated Plants - Grains

M-4

Abs Jour : Ref Zhur ~ Biol., No 1, 1958, No 1513

Author : A. Andronov

Inst : Not Given

Title : Sowing Corn During Harvesting

Orig Pub : S.kh. Kirgizii, 1956, No 6, 13-14

Abstract : The possibility of using parts of irrigated areas in deep valleys of the Kirgiz Republic occupied by winter and summer grain crops and early potatoes for sowing corn during harvesting is indicated. Some data from the year-long experience is listed which the experimental farm of the Kirgizian institute for livestock raising has gathered on the effectiveness of cultivating post-harvest corn. The agrotechny and methods of sowing corn at harvest are described.

Card : 1/1

ANDRONOV, A.V.

Efficient methods for reconditioning parts and increasing their
wear resistance. Mashinostroitel' no.11:41-42 N '61.

(MIRA 14:11)

(Machine tools--Maintenance and repair)

FANDRONEY, B. V.

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PERCENTAGE AND PROPORTION MODELS

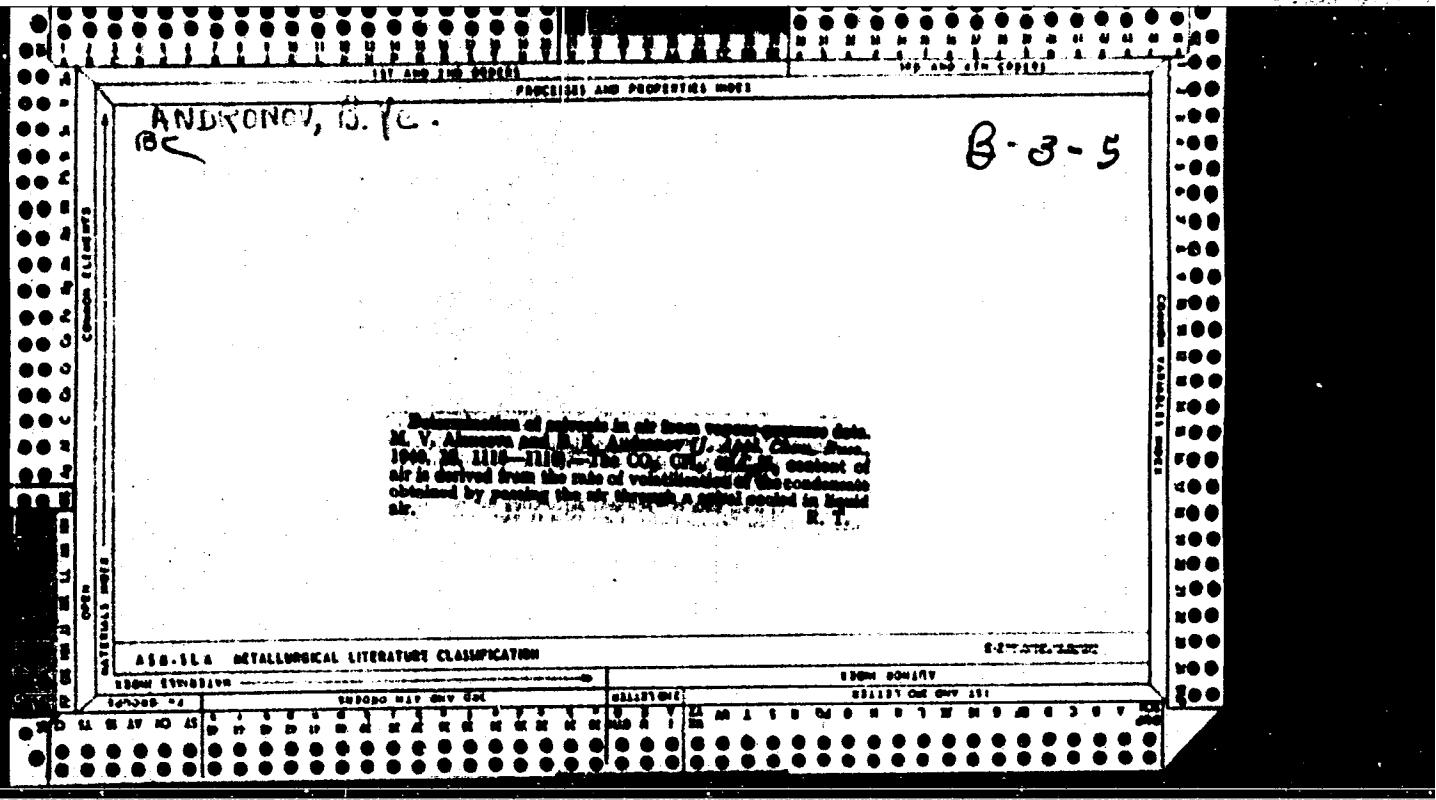
A new method for the absorption of aerosols. M. V. Alichkova and Yu. R. Andreev. *Lub. Prakt.* (U.S.S.R.) 1959, No. 5, 20-23. The proposed method for the taking of air samples in industrial plants is very simple, dependable, and can be used in any lab. It consists of a glass app., composed of 6 spheres of a definite diam., which are connected with each other by means of narrow glass tubes (of a definite diam.). A No. 2 filter is fused to the lower sphere. Into the app. is introduced 20 cc. of a saponin soln. This construction has 2 objectives: it changes sharply the linear velocity within the app., and it lengthens the distance of the air passage. The analyzed aerosol entering the absorber passes through the glass filter, through the liquid absorber, and through the series of spheres filled with foam, which envelopes the entering aerosol and retains it for a considerable length of time. The acidic fogs are completely absorbed in this absorber with an air passing velocity of 0.6 l./min. W.H.U.

410.310 METALLURGICAL LITERATURE CLASSIFICATION

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CH
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Determination of small quantities of sulfur monochloride in the air. L. S. Cheshchikova and B. N. Andronov, Zashchita Tsvet. Met., No. 2, 125-6 (1940); KMM, No. 62, Zapr. 1946, No. 7, 63.— S_2Cl_2 in the air can be dried from chlorinated by the reaction of S_2Cl_2 with KI . The colorimetric method can be used for concns. from 0.01 to 0.04 mg. The standard color scale is prep'd. from 0.01 N I solution. For higher concns. of S_2Cl_2 the liberated I is titrated with $Na_2S_2O_3$. Three absorbers with 10 cc. of CCl_4 are used to absorb S_2Cl_2 . During the absorption process the tubes are cooled with a mist. of snow and $NaCl$. A tube with paraffin varnished with $CuCl_2$ and ignited is connected before the absorber. After absorption the tubes are blown with dry air to remove Cl_2 , which is present in the air simultaneously with S_2Cl_2 . Solutions of S_2Cl_2 in CCl_4 remain unchanged for 3 weeks. Detrac. of S_2Cl_2 with Cl_2 and S (oxidation to SO_4^{2-}) did not give satisfactory results.
W. R. Henn

| ASS-ILA METALLURGICAL LITERATURE CLASSIFICATION | | | | | | | | | | C-FILE-1000 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
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| 100M STICKERLYN | | | | | 100000 MIP GRV 100 | | | | | REALITY ONE | | | | | 100M 804100 | | | | | 100000 MIP GRV 100 | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | | |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 | 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 | 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 | 81 | 82 | 83 | 84 | 85 | 86 | 87 | 88 | 89 | 90 | 91 | 92 | 93 | 94 | 95 | 96 | 97 | 98 | 99 | 100 |
| 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 21 | 22 | 23 | 24 | 25 | 26 | 27 | 28 | 29 | 30 | 31 | 32 | 33 | 34 | 35 | 36 | 37 | 38 | 39 | 40 | 41 | 42 | 43 | 44 | 45 | 46 | 47 | 48 | 49 | 50 | 51 | 52 | 53 | 54 | 55 | 56 | 57 | 58 | 59 | 60 | 61 | 62 | 63 | 64 | 65 | 66 | 67 | 68 | 69 | 70 | 71 | 72 | 73 | 74 | 75 | 76 | 77 | 78 | 79 | 80 | 81 | 82 | 83 | 84 | 85 | 86 | 87 | 88 | 89 | 90 | 91 | 92 | 93 | 94 | 95 | 96 | 97 | 98 | 99 | 100 |



ANDRONICUS. S. V.

(1)

Absorption of sulfuric acid fog. M. V. Alekseeva and B. I. Andronov. *Lab. Prakt.* (U. S. S. R.) 16, No. 1, 18-21 (1941).—The fog is not absorbed in ordinary Drexel absorption jars with sealed-in glass filters. A method is developed for taking H_2SO_4 fog samples by fibrous filters composed of 0.5 g. of cotton, in several layers, between which is placed filter paper. The absorptive capacity of these filters is satisfactory with a current velocity of 0.8 l./min. Not more than 3.8% of fog passes the filter, whose resistance is 8-10 mm. Hg. Cotton can be replaced by alignin, with satisfactory absorption. With small amounts of fog, cotton and alignin filters are not satisfactory, because they retain SO_4^{2-} , removal of which requires prolonged washing. To avoid this inconvenience, a liquid absorber was built, consisting of 6 glass bulbs, the diam. of the upper bulb being 45 mm., that of the next 4 bulbs (connected with each other by glass necks) 2.3 cm. long and 3.5 mm. In 80% of the fog was absorbed. Complete absorption of fog (diam. 35 mm.), and that of the last bulb 40 mm. In the was obtained with a 0.02 N base. The velocity of the gas is middle of the lower bulb is a glass filter, and the lower end important. Complete absorption is obtained only with a bulb is connected to a glass tube rising parallel to velocity of 0.250-0.300 l./min.; at greater velocities fog the axis of the app. The tube is bent away from the app. passes the app. Both H_2SO_4 and HNO_3 fogs are absorbed at the level of the 5th bulb. The upper bulb is connected completely by the base, as are vapors of NH_4Cl , HNO_3 , to glass tubing 6-7 mm. in diam. The velocity of the fog aniline-HCl and CdO . The resistance of this app., filled is changed rapidly in passing from the narrow neck to the with 20 ml. of liquid, is 120-130 mm. Hg at a velocity of spherical bulbs. When 20 ml. of water was used, up to 0.25-0.50 l./min. Eleven references. W. R. Henn

ASH-SLA METALLURGICAL LITERATURE CLASSIFICATION

APPROVED FOR RELEASE: 03/20/2001

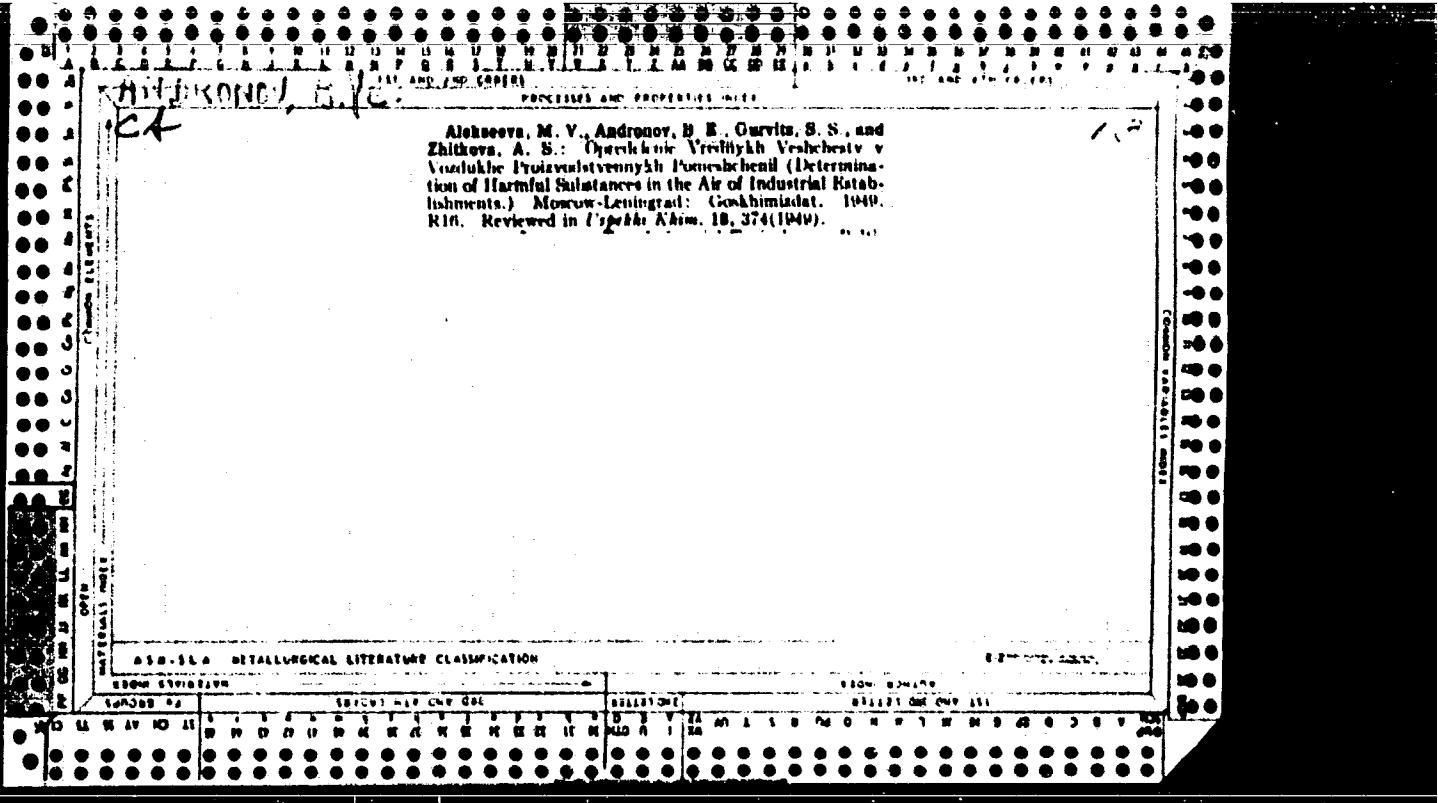
CIA-RDP86-00513R000101420020-1"

Separate determination of vapors of organic solvents; quantities of CO_2 , and had no effect on the results. Comp. and chlorinated hydrocarbons in the air. M. V. Alek. testin. of CaCl_2 and chloroprene indicated that KI, neva and R. N. Androsov. Lab. Prakt. (U.S.S.R.) 10, retained these substances. Unsatisfactory results were No. 12, 20-8(1941).—The vapors of org. solvents in the obtained with metallic Ag and AgNO_3 . In another series air of industrial plants (alcs., ketones, complex esters, of expts. the contents of the chlorohydrocarbons were aromatic compds. and chlorohydrocarbons) are usually detd. according to Cl. It was detd. that the percentage detd. by combustion of these gases in porcelain tubes with g. of combustion of a mixt. of several org. substances rags Pt at $800-900^\circ$ and absorbing the CO_2 formed with BaO placed in the air was an arithmetical mean of the compo. (OII), min. The change in the constn. of Ba(OH)_2 detd. heats. On the basis of exptl. data the following method the coeffient of C. The combustion products of the org. solvents in chlorinated hydrochloro compds. contain not only CO_2 , but also Cl and carbon was developed: Take 3 samples of air by pipets HCl, which also react with Ba(OH)_2 , interfering with the washed out preliminarily with air free of CO_2 and org. accurate detn. of C. To avoid these inaccuracies, expts. solvents; det. the total C and CO_2 contents in each of the were carried out to select an absorbent retaining Cl and first 2 pipets; det. Cl in the 3rd pipet by the combustion HCl, but not CO_2 , and the org. solvents were burned with method and subsequent absorption of the combustion and without these absorbents. KI, metallic Ag and products in 0.01 N Ag_2O in a NaHCO_3 soln. contg. no AgNO_3 were used as absorbents. All substances tested Cl⁻ and place the solns. in an absorption flask with a glass were first purified and dried., then transferred by the drop filter No. 1 or 2. Det. the content of the chloride from method to a 6.4-4. glass flask (preliminarily washed out) the content of Cl obtained. Subtract the content of C in with air free of CO_2 and org. substances). The vapor the chlorohydrocarbon and CO_2 from total C obtained from samples were taken from the flask by means of evacuated the 1st sample and recalc. the result to the other solvent pipets preliminarily washed out with CO_2 -free air. Under present. Five references. W. B. Henn

HILLKONG, R. C.

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Alekssova, M. V., Andronov, B. E., Gurvits, S. S., and Zhitkova, A. S.: Opyekimie Vreditel'nykh Vesicheskikh v Vozdukh Pribuzdvennykh Pomeishchikov (Determination of Harmful Substances in the Air of Industrial Establishments). Moscow-Leningrad: Gostekhizdat, 1949. RIN. Reviewed in *Voprosy Khim.*, 10, 374 (1949).



ANDRONOV, B.Ye.;SHIPMAN, G.M.

Industrial hygiene in application of isolation material iporka.
Gig. sanit., Moskva no.10:45-46 Oct 1953. (CIML 25:5)

1. Of the All-Union Scientific-Research Institute for the Protection
of Labor VTsSFS, Moscow.

ANDRONOV, B.Ye.

ALEKSEYEVA, M.V.; ANDRONOV, B.Ye.; GURVITS, S.S.; ZHITKOVA, A.S.;
SHITAL', V.I., redaktor; RAKOV, S.I., tekhnicheskiy redaktor.

[Identification of harmful agents in the air of industrial installations] Opredelenie vrednykh veshchestv v vozdukhe proizvodstvennykh pomeshchenii. Izd. 2-e. Moskva, Gos.nauchno-tehn. izd-vo khimicheskoi lit-ry, 1954. 409 p.
(MIRA 8:4)
(Air--Analysis)

ACC NR: AP6003300 EWP(y)/EWP(t) SOURCE CODE: UR/0129/66/000/001/0012/0017
MJW/JD

AUTHOR: Zakharov, I. I.; Dolgova, A. M.; Andronov, D. P.

ORG: none

70

B

TITLE: High-temperature strength properties of chromium steels following prolonged tests
99.55, 10

SOURCE: Metallovedeniye i termicheskaya obrabotka metallov, no. 1, 1966, 12-17

TOPIC TAGS: high temperature strength, chromium steel, rupture strength, creep mechanism, plastic deformation

ABSTRACT: The object of this investigation was to plot the curves of the stress-rupture strength and creep resistance of these steels. To this end, the dynamics of the softening of each steel was investigated as a function of the temperature and duration of the test, with extrapolation of the curves insofar as possible. The chromium steels investigated were 1Kh17N2, EI376 and 1Kh12N2VMF, and to assure reliability five different melts of each steel were tested. The tests of stress-rupture strength were carried out by means of IP-4M machines ensuring automatic regulation and recording of temperature of the specimen during the testing. The test results were used to plot diagrams of stress-rupture strength. The creep tests were based on determining for each steel the limits of creep according to a plastic deformation of

Cord 1/2

UDC: 669.15-194:669.26:620.178.38

L 15709-66

ACC NR: AP6003300

0
0.2% on the basis of 100, 500, 1000 and 2000 hr. The test findings were used to plot creep diagrams. It was found that the scatter of points on the curves of ultimate stress-rupture strength for the investigated steels averaged $\pm 8.5 \text{ kg/mm}^2$ at 400-500°C after 100 hr and $3-1.5 \text{ kg/mm}^2$ at 500-600°C after 2000 hr. This scatter decreases with increasing test time and increases with test temperature. Short-time strength at room temperature does not characterize the high-temperature strength of these steels; hence the pertinent technical standards must be correspondingly revised. The greatest (30-40%) decrease in the stress-rupture strength of chromium steels was recorded for tests lasting 100-500 hr. The plotted curves of stress-rupture strength of the investigated steels lack any inflection points over 100 to 2000 hr. Thus, considering that most of the tests longer than 500 hr are not characterized by any sharp variations in the scatter of points, extrapolation of the curves from 500 to 2000 hr is justified. A similar conclusion may be drawn with respect to the scatter of points on the creep curves. Orig. art. has: 1 table, 6 figures.

SUB CODE: 11, 20/ SUBM DATE: none/ ORIG REF: 000/ OTH REF: 000

Card 2/2 10

ANDRONOV, G. A.

ANDRONOV, G.

Some problems in planning and building cities. Zhil.-kom.khos.
7 no.11:1-4 '57. (MIRA 10:12)

I. Glavnnyy inzhener Glavnogo upravleniya planirovki i zastroyki
gorodov. (City planning)

ANDRONOV, G. A.

Distribute public-service enterprises more efficiently.
Zhil.-kom.khoz. 9 no.7:15-16 '59. (MIRA 12:11)

1. Glavnnyy inzhener Upravleniya planirovki i zastroyki goroda
Ministerstva kommunal'nogo khozyaystva RSFSR.
(Municipal services)

ANDRONOV, G.A.; BORDUKOV, I.V.; KUZNETSOV, A.I.

Improve the quality and importance of regional planning
projects. Prom.stroi. 38 no.4:2-5 '60.
(MIRA 13:8)

1. Ministerstvo kommunal'nogo khozyaystva SSSR (for Andronov).
2. Gosstroy SSSR (for Bordukov). 3. Giprogor (for Kuznetsov).
(Regional planning)

ANDRONOV, G. G.

PHASE I BOOK EXPLOITATION

SOV/5256

36

Gerasimov, Valentin Vladimirovich, ed., Candidate of Chemical Sciences.

Korroziya reaktornykh materialov; sbornik statey (Corrosion of Nuclear-Reactor Materials; a Collection of Articles) Moscow, Atomizdat, 1960. 284 p. 3,700 copies printed.

Ed.: A.I. Zavodchikova; Tech. Ed.: Ye.I. Mazel'.

PURPOSE: This collection of articles is intended for mechanical and metallurgical engineers as well as for scientific research workers concerned with the construction of nuclear reactors.

COVERAGE: The water corrosion of various types of stainless steel and alloys under high pressures and temperatures is investigated from the point of view of the use of these materials for the construction of nuclear reactors. Attention is given to the following: the use of oxygen for protecting steel against corrosion, the behavior of steel in high-temperature

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Corrosion of Nuclear- (Cont.)

SOV/5258

water with various compositions, factors of metal stress corrosion, intergranular corrosion, the mechanism of corrosion cracking, and the corrosion resistance of aluminum and zirconium alloys. Conclusions based on test results are included. No personalities are mentioned. Most of the articles are accompanied by references. Of 238 references 97 are Soviet.

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PART I. METHODS OF INVESTIGATING WATER
AND ELECTROCHEMICAL CORROSION AT
HIGH TEMPERATURES AND PRESSURES

Gulyayev, V. N., and P. A. Akol'zin. Methods of Testing the Corro-
sion-Creep Strength of Metals at High Pressures and Temperatures
Card 240

Corrosion of Nuclear- (Cont.) SOV/5256

vestigating the Mechanism of High-Purity Water Corrosion of
Zirconium Alloys With Niobium

250

Tolstaya, M. A., G. N. Gradusov, and S. V. Bogatyreva. In-
vestigating Water Corrosion Resistance of Zirconium Alloy
Tubes at High Temperatures

264

Gerasimov, V. V., and V. N. Aleksandrova. Investigating the
Electrochemical Behavior of Zirconium

274

Andronov, G. G., and N. K. Komarova. Removing Corrosion
Products From the Heat Exchanger of a Reactor

277

AVAILABLE: Library of Congress (TA462.G4)

Card 8/9

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B102/B147

AUTHORS: Andronov, G. G., Komarova, N. K.

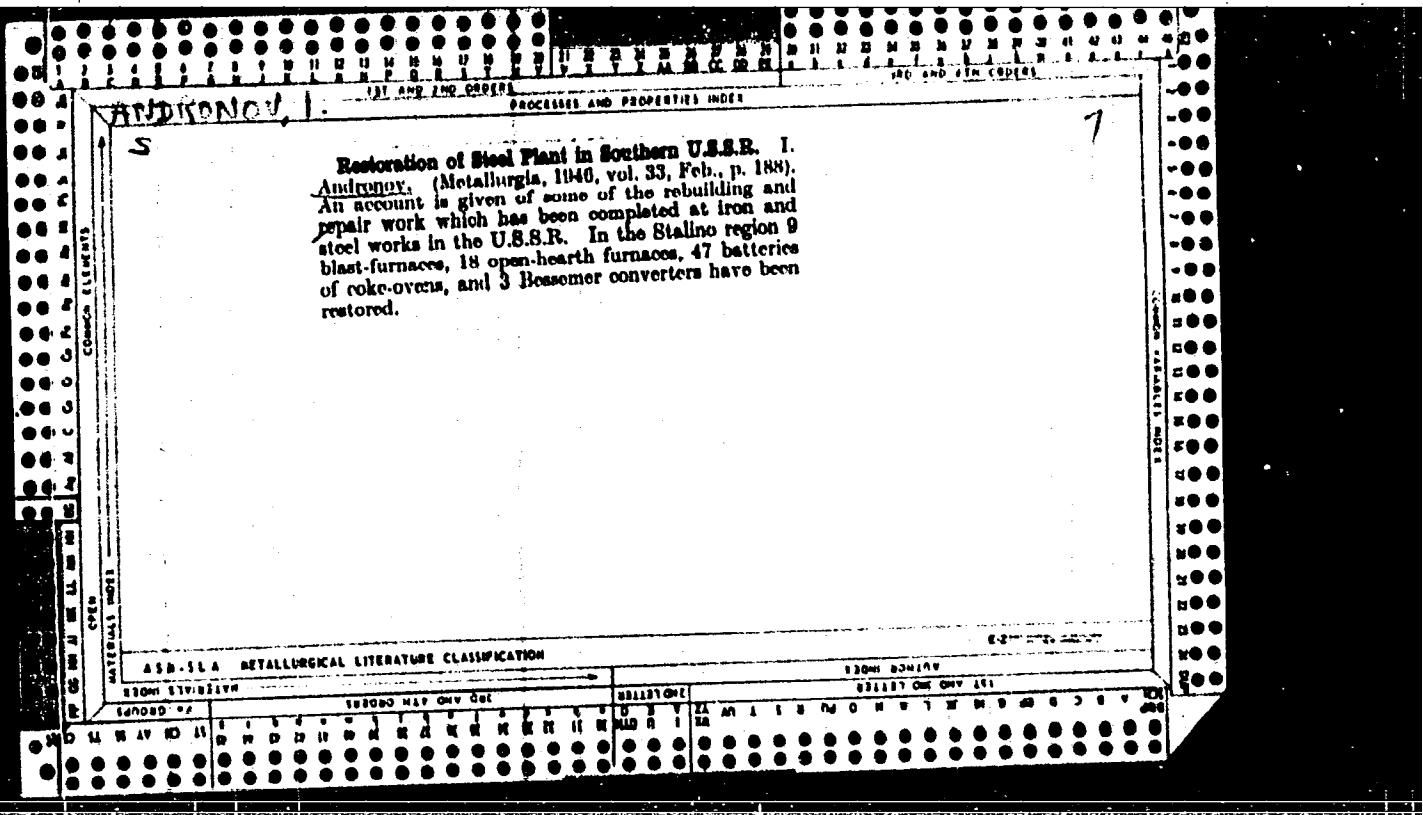
TITLE: Purification of a reactor circuit from corrosion products

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 20, 1961, 263, abstract 20I189 (Sb. "Korroziya reaktorn. materialov". M., Atomizdat, 1960, 277 - 282)

TEXT: A solution is recommended for washing the circuit of a BBR-C (VVR-S) reactor made of Al alloy, which has the following composition: CrO₃ 20g/liter, H₃PO₄ 35 milliliters/liter (specif. weight 1.68); temperature ~20°C; duration of treatment: until corrosion products are completely dissolved. The etching solution is removed from the whole reactor (tank and circuit) by repeated and careful washing with distilled water. Washing with 8% HNO₃ solution is not recommended because intercrystalline corrosion might occur in the junction zone. [Abstracter's note: Complete translation.]

X

Card 1/1



ANDRONOV, G-A., inzh.

For the fulfillment of the 1964 plan for the output of chemical equipment ahead of schedule. Khim.mashinostro. no.381-4 Mv-Ja '64.
(MIRA 18:1)

ANDRONOVA, I. A.

Statistical phenomena due to periodic repolarization of ferroelectrics. Izv. AN SSSR. Ser. fiz. 28 no. 4:722-725 Ap '64.
(MIRA 17:5)

Andronov, I. G.

"The Architectonics and Growth of the Roots of Certain Crops on the Soils of the Trans-Ili Ala-Tau." Min Higher Education USSR. Kazakh State Agricultural Inst. Alma-Ata, 1955 (Dissertation for the degree of Candidate in Agricultural Sciences)

SO: Knizhnaya letopis' No. 27, 2 July 1955

Andronov, I.G.
USSR / Cultivated Plants. Fruits, Berries

L-6

Abs Jour : Ref Zhur - Biol., No 6, March 1957, No 22831

Author : Andronov, I.G.

Inst : Not Given

Title : Plum Root Systems on Soils With a Buried Humus Layer.

Orig Pub : Tr. Kazakhsk. s.-kh. in-ta, 1955, 5, No 1, 116-127

Abstract : The leading seed fruit variety in Alma-Ata fruit zone is the apple tree, and that of the stone variety is the plum tree. The distribution of plum root systems on soils with a buried humus layer was studied, such soils being often found at the foothill "counters" of Zailiy Ala-Tau. There is a description of soil horizon characteristics and orchard agrotechniques. Excavations were performed by the Shitt-Dragavtsev method of 15 trees of 5 varieties. The plum root systems on these soils penetrate to a very great depth, not previously mentioned in literature. The depth of root penetration in Renklod Altana reaches 9.5 m, and in Ekaterininskaya -- 12 m. The depth of root penetration into the soil is twice the height of the tree. The main mass of fibrous roots

Card : 1/2

CHURIN, Kh.D., kand. sel'khoz. nauk, dots.; VASIL'YEV, B.M., dots.;
HELOV, A.I., kand. ekon. nauk; ASHIKAYEV, Sh.V., dots.;
TSYPKIN, G.I., kand. sel'khoz. nauk; KAPLINA, G.T., dots.;
ANDRONOV, I.G., dots.; VASIL'YEV, V.I.; KONDION, A.K.,;
MAKAROV, A.P., nauchnyy sotr.; ZHIZNEVSKIY, F.V., red.;
MOSIYASH, S.P., red.; KRINITSKIY, V.A., red.; NAGIBIN, P.,
tekhn. red.

[Economics of Kazakhstan agriculture]Ekonomika sel'skogo kho-
ziaistva Kazakhstana. Alma-Ata, Kazsel'khozgiz, 1962. 325 p.
(Kazakhstan--Agriculture--Economic aspects) (MIRA 16:3)

MOISEYEV, Nikolay Nikolayevich; ANDRONOV, Ivan Georgiyevich; D'YAKOV, A.,
red.; URBISINOV, A., tekhn. red.

[Fall irrigation of orchards] Osennii poliv sadov. Alma-Ata,
Kazsel'khozgiz, 1963. 45 p. (MIRA 17:3)

ANDRONOV, Ivan Georgiyevich

[Fruit culture on dwarf rootstocks] Plodrovedstvo na karlikovykh podvoikakh. Alma-Ata, Kainar, 1964. 0.4 p.
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ANDRONOV, I.I.

LYAPIN, Andrey Pavlevich; ANDRONOV, I.I., redakter; ISLENT'YEVA, P.G.,
tekhnicheskiy redakter.

[Socialist organization of communal labor. Expanded lecture
transcript] Setsialisticheskaya organizatsiya obshchestvennogo
truda. Dep. stenogramma lektsii. Moskva, Izd-ve "Znanie", 1956.
30 p. (Vsesoyuznoe obshchestvo po rasprestraneniu politicheskikh i nauchnykh znanii. Ser. 2, no.13) (MLRA 9:5)
(Labor and laboring classes)

ANDRONOV, I.I., redaktor; GUBIN, M.I., tekhnicheskiy redaktor

[Business accounting at machine-tractor stations; a collection of
papers] Opyt khoziaistvennogo rascheta v mashinno-traktornykh
stantsiiakh; sbornik materialov. Moskva, Izd-vo "Znanie," 1956. 39 p.
(Vsesoiuznoe obshchestvo po rasprostraneniu politicheskikh i
nauchnykh znanii. Ser. 8, Ekonomika sel'skogo khoziaistva. Vyp. 2,
no.9) (MIRA 9:12)

(Machine-tractor stations--Accounting)

OSAD'KO, Mikhail Petrovich, kandidat ekonomicheskikh nauk; ANDRONOV, I. I.,
redaktor; FURMAN, G.V., tekhnicheskiy redaktor

[Agricultural artels under modern conditions of developments]
Sel'skokhoziaistvennaia artel' v sovremennykh usloviakh ee razvitiia.
Moskva, Izd-vo "Znanie," 1956. 39 p. (Vsesoiuznoe obshchestvo po
rasprostraneniiu politicheskikh i nauchnykh znanii. Ser.8, Ekonomika
sel'skogo khozaiystva, vyp. 2, no.5) (MLRA 9:11)
(Collective farms)

BASYUK, Timofey Leont'yevich, doktor ekonomicheskikh nauk, professor;
ANDRONOV, I.I., redaktor; ISLEN'T'YEV, P.G., tekhnicheskiy redaktor

[Principal methods of increasing labor productivity in socialist agriculture] Osnovnye puti povysheniiia proizvoditel'nosti truda v sotsialisticheskem sel'skom khoziaistve. Moskva, Izd-vo "Znanie," 1956. 47 p. (Vsesoiuznoe obshchestvo po rasprostraneniiu politicheskikh i nauchnykh znanii. Ser. 8, Ekonomika sel'skogo khoziaistva, vyp.2, no.1)

(MLRA 9:11)

(Agriculture) (Labor productivity)

ANISIMOV, Nikolay Il'ich, kandidat ekonomicheskikh nauk; ANDRONOV, I.I.,
redaktor; ISLEN'TYEVA, P.G., tekhnicheskiy redaktor

[Agriculture of the U.S.S.R. in the sixth five-year plan] Sel'skoe
khoziaistvo SSSR v shestoi piatiletke. Moskva, Izd-vo "Znanie,"
1956. 47 p. (Vsesoiuznoe obshchestvo po rasprostraneniu politiche-
skikh i nauchnykh znanii. Ser.8, Ekonomika sel'skogo khoziaistva,
vyp. 2, no.2)
(Agricultural policy)

(MLRA 9:8)

1. ANDRONOV, I. K. (Prof.)
 2. USSR (600)
 4. Zercheninov, Nikoali Timofeevich, d. 1952.
 7. Nikolai Timofeevich Zercheninov [obituary]. Mat. v shkole No. 2, 1953.
9. Monthly List of Russian Accessions, Library of Congress, April 1953. Unclassified.

ANDRONOV, I.K., professor; LEPESHKINA, N.I., redaktor; SHIKIN, S.T., tekhnicheskiy redaktor.

[Arithmetic of natural numbers] Arifmetika natural'nykh chisel. Moskva, Gos. uchebno-pedagog. izd-vo Ministerstva prosveshcheniya RSFSR, 1954. 191 p.

(MLRA 8:1)

(Arithmetic)

ANDRONOV, I.K., professor (Moscow).

Length of the circumference and surfaces of elementary circular
bodies. Mat. v shkole no.1:4-10 Ja-F '54. (MLRA 7;1)
(Geometry, Analytic)

ANDRONOV, I.K.

Decomposition equality of E. S. Fedorov's equivoluminal
parallelohedra. Uch. zap. MOPI , 20:125-132 '54 (MLRA 10:?)
(Geometry, Solid)

ANDRONOV, I.K.

Approximations in reformation of equivoluminal polyhedra by the
method of decomposition equality. Uch. zap. MOPI 20:133-137
'54. (Polyhedra)

ANDRONOV, I.K.

Necessary and sufficient conditions for decomposition equality
of equiareal plane figures of the type zero. Uch. zap. MOPI
20:138-144 '54. (MLRA 10:7)
(Geometry)

ANDRONOV, Ivan Kuz'mich, professor; LEPESHKINA, N.I., redaktor; SHIKIN,
S.T., tekhnicheskiy redaktor

[The arithmetic of fractions and fundamental values; a manual for
secondary schools] Arifmetika drobnykh chisel i osnovnykh velichin;
posobie dlia srednikh shkol. Moskva, Gos. uchebno-pedagog. izd-vo
Ministerstva prosveshcheniya RSFSR, 1955. 343 p. (MIRA 9:8)
(Fractions)

VILENKOIN, N.Ya.; YAGLOM, I.M.

"Arithmetic of natural numbers." [professor] I.K.Andronov.
Reviewed by N.Ia.Vilenkin, I.M. Iaglom. Usp.mat.nauk. 10
no.2:225-228 '55. (MIRA 8:8)
(Arithmetic) (Andronov, Ivan Koz'mich, 1894-)

ANDRONOV, I.K., prof.; VYGODSKIY, M.Ya., prof., DREPMAN, I.Ya., prof.;
MOLODISHIY, V.N., dots.; YUSHKEVICH, A.P., prof.; SMIRNOVA, M.I.,
tekhn. red.

[Programs of pedagogical institutes; history of elementary mathematics for mathematical sections of physics and mathematics faculties] Programmy pedagogicheskikh institutov; istoriya elementarnoi matematiki dlja matematicheskikh otdelenij fiziko-matematicheskikh fakul'tetov. Moskva, Gos. uchebno-pedagog. izd-vo M-va prosv. RSFSR, 1956. 12 p. (MIRA 11:9)

1. Russia (1917- R.S.F.S.R.) Glavnoye upravleniye vysshikh i srednikh pedagogicheskikh uchebnykh zavedeniy,
(Mathematics—Study and teaching)

ANDRONOV, I.K.

Program of the history course of elementary mathematics. Uch. zap.
MOPI 39 no.3:135-140 '56. (MLRA 10:4)
(Mathematics--Study and teaching)

ANDRONOV, L.K.

~~ANDRONOV, L.K., prof.; BRADIS, V.M., prof.; LEVIN, V.I., prof., red.;~~
~~MAKSAYEV, A.V., tekhn.red.~~

[Programs of pedagogical institutes; elementary mathematics for physics and mathematics faculties; major: mathematics] Programmy pedagogicheskikh institutov; elementarnaia matematika dlia fiziko-matematicheskikh fakul'tetov. Spetsial'nost' - matematika. Moskva, Gos. uchebno-pedagog. izd-vo M-va prosv. RSFSR, 1957. 15 p.
(MIRA 11:3)

1. Russia (1917- R.S.F.S.R.) Glavnaya upravleniya vysshikh i srednikh pedagogicheskikh uchebnykh zavedenii.
(Mathematics--Study and teaching)

ANDRONOV, Ivan Koz'mich; BRADIS, Vladimir Modestovich; KAPUSTINA, V.S.,
red.; SMIRNOV, G.I., tekhn.red.

[Arithmetic; a textbook for secondary schools] Arifmetika; posobie
dlya srednei shkoly. Moskva, Gos. uchebno-pedagog. izd-vo M-va
prosv. RSFSR, 1957. 302 p. (MIRA 11:5)
(Arithmetic)

ANDRONOV, I.K., professor; BEREZANSKAYA, Ye.S.; GLAGOLEV, N.S.; DEPMAN, I.Ya., professor; ZOLOTOVITSKIY, Ye.N.; IL'IN, A.Ye., dotsent; LYAPIN, S.Ye., MULYARCHIK, M.Z., uchitel'; PETRAKOV, I.S.; CHICHIGIN, V.G.

Aleksandr Nikolaevich Barsukov. Mat. v shkole no.1:72-74 Ja-F '57.
(MIRA 10:2)

1. Moskovskiy oblastnoy pedagogicheskiy institut (for Andronov).
2. Zaveduyushchiy kafedroy metodiki matematiki Moskovskogo pedagogicheskogo instituta imeni V.I. Lenina (for Berezanskaya).
3. Metodist Scherbakovskogo rayona goroda Moskvy (for Glagolev).
4. Leningrad-Shcherbakovskogo rayona goroda Moskvy (for Depman).
5. Metodist Balashikhinskogo rayona Moskovskoy oblasti (for Zolotovitskiy).
6. Moskovskiy pedagogicheskiy institut imeni V.I. Lenina (for Il'in).
7. Zaveduyushchiy kafedroy metodiki matematiki Leningradskogo pedagogicheskogo instituta imeni A.I. Gertsena (for Lyapin).
8. Shkola No.29 goroda Moskvy (for Mulyarchik).
9. Zaveduyushchiy kabinetom matematiki Moskovskogo oblastnogo instituta usovershenstvovaniya uchiteley (for Petrakov).
10. Zaveduyushchiy kafedroy metodiki matematiki Moskovskogo pedagogicheskogo instituta imeni V.P. Potemkina (for Chichigin).

(Barsukov, Aleksandr Nikolaevich, 1891-)

~~ANDRONOV, I.K.~~

~~ANDRONOV, I.K. (Moskva).~~

The results of the development of mathematical education in the
U.S.S.R. during the last 40 years. Mat.v. shkole no.5:6-21 S-0 '57.
(MLRA 10:9)
(Mathematics--Study and teaching)

ANDRONOV, I.K.; OKUNEV, A.K. (Moskva).

Numerical circumference and circular functions of real arguments
in the basic trigonometry course. Mat. v shkole no.6:25-35 N-D
'58. (MIRA 11:12)

(Trigonometrical functions)

ANDRONOV, Ivan Kor'mich; OKUNEV, Aleksandr Kuz'mich; SIDOROVA, L.A..
red.; SMIRNOVA, M.I., tekhn.red.

[Basic course of trigonometry, based on practical problems;
textbook for teachers] Osnovnoi kurs trigonometrii, razvivayemyi
na tselesoobraznykh zadachakh; posobie dlia uchitelei. Moskva,
Gos.uchebno-pedagog.izd-vo M-va prosv.RSFSR, 1960. 365 p.
(MIRA 13:6)

(Trigonometry--Study and teaching)

ANDRONOV, I.K. (Moskva)

Activity of L.N. Tolstoi in the domain of mathematical education
and his particular interest in the subject of mathematics (in
connection with the 50th anniversary of his death). Mat. v
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APPROVED FOR RELEASE: 03/20/2001

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28043
S/106/61/000/009/001/008
A055/A127

AUTHOR: Andronov, I. S.

TITLE: Noiseproof feature of some phase-shift keying systems in the presence of signal fading

PERIODICAL: Elektrosvyaz', no. 9, 1961, 3 - 7

TEXT: The problem of the noiseproof feature of phase-shift keying systems has always been treated without taking into account signal fading. In the present article, an attempt is made to take signal fading (slow Rayleigh fading) into account¹⁵. Formulae are derived for the probability of errors in the case of the following systems: 1) single transmission systems of binary signals with carrier phase positions $0 - \pi$ (Phase Telegraphy); 2) double system with phase positions $\pm\pi/4$ and $\pm3\pi/4$ (Double Phase Telegraphy); 3) single and double systems with relative phase-shift keying (Relative Phase Telegraphy and Relative Double Phase Telegraphy). To determine the probability of errors under slow fading conditions, the author uses the method of L. M. Fink [Ref. 1: "O pomekhoustychivosti pri zamiraniyakh signala" (On potential noise immunity at signal fading) Radiotekhnika, 1959, v. 14, no. 9]. He begins by introducing, for the signal, the

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transmission coefficient μ characterizing the fading, this coefficient being thus a random magnitude. He applies then the wellknown formulae [Ref. 2: Lezin, Yu. S. "O pomekhoustoychivosti pri razlichnykh vidakh radiotelegrafii" (Interference-proofness in various types of radiotelegraphy), Elektrosvyaz', 1957, no. 4] permitting to estimate the interference-proofness of Phase Telegraphy and Double Phase Telegraphy (where h^2 is the relation between the signal energy and the specific noise-power) and represents the double Phase Telegraphy system as an equivalent single Phase Telegraphy system with $h_{eq}^2 = \frac{h^2}{2}$ and with doubled carrying capacity. Using also the formula

$$h^2 = \frac{1}{\sigma_n^2} \int_0^T \mu^2 Z^2 dt \quad (5)$$

(where σ_n^2 is the specific noise-power, T is the duration of a signal element, and Z is the signal in the absence of fading), he finally obtains the following expression for the probability of errors in the case of single Phase Telegraphy and of slow fading:

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$$P'_{\text{Phase Telegraphy}} = \frac{1}{2} \left[1 - \sqrt{\frac{h_0^2}{h_0^2 + 1}} \right] \quad (9)$$

where h_0^2 is the average statistical value of the relation between the signal energy and the specific noises. In the case of Double Phase Telegraphy, the probability of errors is:

$$P'_{\text{Double Phase Telegraphy}} = \frac{1}{2} \left[1 - \sqrt{\frac{h_0^2}{h_0^2 + 2}} \right] \quad (10)$$

The probability (10) coincides exactly with the probability of errors in frequency telegraphy in the case of coherent reception and slow fading. For the Relative Phase Telegraphy and Relative Double Phase Telegraphy systems the formulae giving the probability of errors are, respectively:

$$P'_{\text{Relative Phase Telegraphy}} = \frac{1}{2} \left[1 - \frac{4}{\pi} \sqrt{\frac{h_0^2}{h_0^2 + 1}} \operatorname{arc \, tg} \sqrt{\frac{h_0^2}{h_0^2 + 1}} \right] \quad (21)$$

$$P'_{\text{Relative Double Phase Telegraphy}} = \frac{1}{2} \left[1 - \frac{4}{\pi} \sqrt{\frac{h_0^2}{h_0^2 + 2}} \operatorname{arc \, tg} \sqrt{\frac{h_0^2}{h_0^2 + 2}} \right] \quad (22)$$

For comparison, the author reproduces the formula giving the probability of errors

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in frequency telegraphy in the case of noncoherent reception and signal fading:

$$P'_{\text{Frequency Telegraphy}} = \frac{1}{h_0^4 + 2} \quad (23)$$

To estimate the quality of communication channels in the presence of fading, the author introduces the factor: *H*

$$K = \frac{S I}{\Delta F} \quad (24)$$

where $S = \lg \frac{1}{P'}$ is a magnitude characterizing the noise immunity of the channel, I is the speed of information transmission through the channel in binary units per unit of time, and ΔF is the frequency band occupied by the channel. This quality factor K is found to be: in the case of Relative Phase Telegraphy:

$$K_{\text{Relative Phase Telegraphy}} = \frac{\lg \frac{1}{P'_{\text{Relative Phase Telegraphy}}} I}{\Delta F} \quad (25)$$

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in the case of Relative Double Phase Telegraphy:

$$K_{\text{Relative Double Phase Telegraphy}} = \frac{\lg \frac{1}{P_{\text{Relative Double Phase Telegraphy}}}}{\Delta F} 2I \quad (26)$$

in the case of Frequency Telegraphy:

$$K_{\text{Frequency Telegraphy}} = \frac{\lg \frac{1}{P_{\text{Frequency Telegraphy}}}}{2 \Delta F} I \quad (27)$$

The examination of the graphs representing $K_{\text{Relative Phase Telegraphy}}/K_{\text{Frequency Telegraphy}}$ and $K_{\text{Relative Double Phase Telegraphy}}/K_{\text{Frequency Telegraphy}}$ as a function of ΔF , leads the author to the conclusion that the quality of all the other methods used nowadays in radio-communication lines for transmitting binary signals. There are 2 figures, 6 references: 5 Soviet-bloc and 1 non-Soviet-bloc. The reference to the English-language publication reads as follows: Doelz, Heald, Martin.

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Binary data transmission techniques for linear systems, Proc. IRE; 1957. v. 45,
no. 5.

SUBMITTED: April 18, 1961.

[Abstracter's note: The following subscript is translated (besides the 0@T etc) in
the formulae: eq (equivalent) stands for "3".]

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ANDRONOV, I.S.

Potential interference rejection and conditions for deriving
a method for separate reception of frequency telegraphy
signals. Elektrosviaz' 15 no.6:3-9 Je '61. (MIRA 14:6)
(Telegraph, Wireless)

ACCESSION NR: AP4040999

S/0106/64/000/006/0008/0011

AUTHOR: Andronov, I. S.

TITLE: Potential noise immunity of a diversity reception method

SOURCE: Elektrosvyaz', no. 6, 1964, 8-11

TOPIC TAGS: radio communication, radio reception, diversity reception, coherent signal summation diversity reception

ABSTRACT: Theoretical considerations regarding the noise immunity of a diversity reception based on coherent signal summation are presented. A formula is developed for the probability of erroneous reception for the case of a slow uncorrelated Rayleigh fading in the diversity branches. For a two-branch diversity reception, the method promises a high reliability of communication (average probability of incorrect reception $\geq 10^{-7}$) and a power gain of 0.9 db as compared to noncoherent optimum reception. "The author is very grateful to:

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ACCESSION NR: AP4040456

S/0108/64/019/006/0011/0017

AUTHOR: Andronov, I. S. (Active member)

TITLE: Multipath reception with indefinite signal phase [Report at the 18th Science-and-Engineering Conference of NTORiE dedicated to the Radio Day, Apr 63]

SOURCE: Radiotekhnika, v. 19, no. 6, 1964, 11-17

TOPIC TAGS: radio communication, radio reception, multipath radio reception, short wave radio communication

ABSTRACT: An attempt is made to work out the optimum theoretical solution for a multipath reception system when the transmission factor of each path is known but the signal phase is indefinite. As the transmission factor of each path varies very slowly, some a-priori information about its value, obtained, e.g., by R. Price's and P. Green's method (PIRE, v. 46, no. 3, 1958), can be used. A

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ACC NR: AP6021917

(A)

SOURCE CODE: UR/0108/66/021/003/0044/0050

AUTHOR: Andronov, I. S. (Active member)

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B

ORG: Scientific and Technical Society of Radio Engineering and Telecommunications im. A. S. Popov (Nauchno-tehnicheskoye obshchestvo radiotekhniki i elektronsvyazi)

TITLE: The noiseproof feature of diversity reception using the coherent addition of signals method

q

SOURCE: Radiotekhnika, v. 21, no. 3, 1966, 44-50

TOPIC TAGS: diversity reception, radio noise, signal to noise ratio

ABSTRACT: Equations which characterize the noiseproof feature of diversity reception using the coherent addition method for the distribution of signal amplitudes in accordance with a generalized Rayleigh Law, as well as for Rayleigh correlated fadings, are introduced and analyzed. Present methods used to obtain probable faulty reception include quite complex equations. A recent innovation is the use of a coherent addition of signals method for the branches of the diversity, with the decision as to the error based on the envelope for this sum. This method occupies an intermediate position between coherent and noncoherent diversity reception. The method provides a power gain of 1 db as compared with noncoherent reception, and a gain of the order of 2 db as compared with coherent reception. Use of the suggested method can result in a substantial improvement in reception reliability because of the presence of a regular

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UDC:621.396.626

ANDRONOV, L., kandidat tekhnicheskikh nauk.

Equipping vessels for the transportation of dry bulk cargoes with devices intended to insure protection of the freight. Morflot 17 no.2:11-13 F '57. (MLRA 10:3)

1. Odesskiy institut inzhenerov morskogo flota.
(Ships—Equipment and supplies)